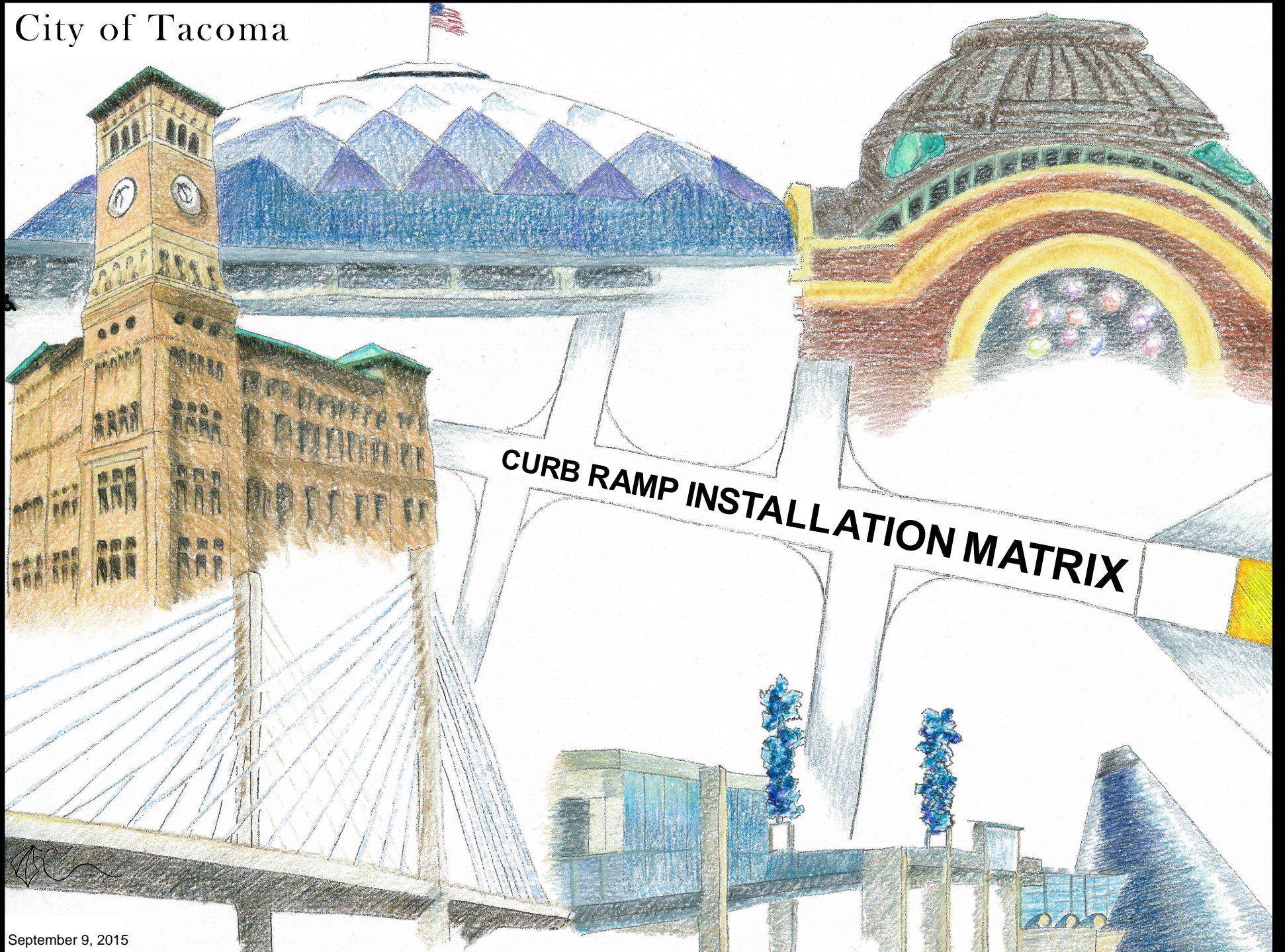


City of Tacoma



September 9, 2015

# Curb Ramp Installation Matrix

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# Curb Ramp Installation Matrix

## Introduction

The Curb Ramp Installation Matrix provides guidance on work in the right-of-way that triggers the requirement to construct curb ramps in the City of Tacoma. Per Title II of the Americans with Disabilities Act, the City of Tacoma is required to ensure that people with disabilities have equal access to pedestrian facilities in the right-of-way. Vertical curbs impede pedestrian access to sidewalks and are one of the major barriers for people with disabilities.

The Curb Ramp Installation Matrix provides a consistent method for determining what type of work in a specific location will require the construction of curb ramps. Street overlays, sidewalk construction, and curb repairs are a few examples of construction that may trigger the provision of curb ramps.

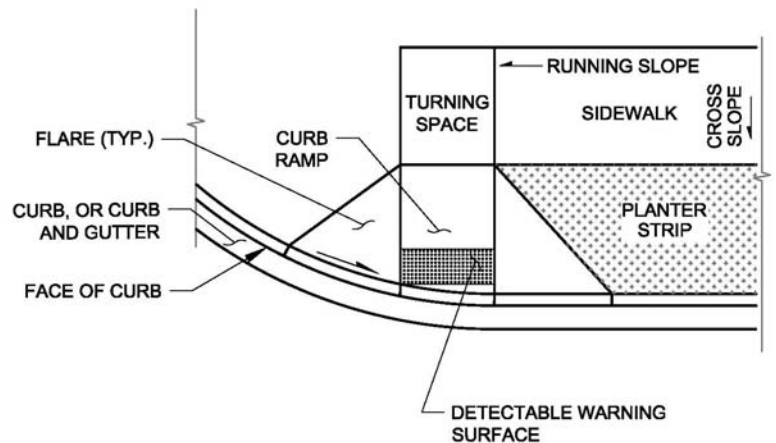
The Curb Ramp Installation Matrix was a collaborative effort between staff from various City departments. The following federal and state laws, as well as case law, were used as a basis for the Matrix.

- Americans with Disabilities Act 1990 (as amended 2008)
- Section 504 of the Rehabilitation Act
- DOJ/DOT Joint Technical Assistance on Requirements to Provide Curb Ramps
- 28 CFR Part 35
- 49 CFR Part 27
- RCW 35.68.075
- PROWAG – Public Right-of-Way Accessibility Guidelines

## Section 1: Definition of a Curb Ramp

### Definitions: Curb Ramp

- Curb Ramp:** A ramp that cuts through or is built up to the curb. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.
- Ramp:** A walking surface with a running slope steeper than 20H:1V (5%).
- Running Slope:** A slope measured in the direction of travel, normally expressed as a percent.
- Cross Slope:** The grade that is perpendicular to the direction of pedestrian travel.
- Turning Space:** A level paved area, within or at top and bottom of a stair or ramp, designed to provide turning and maneuvering space for wheelchair users and as a resting place for pedestrians.
- Detectable**
- Warning Surface:** A tactile surface feature of truncated dome material built into or applied to the walking surface to alert persons with visual impairments of vehicular ways.

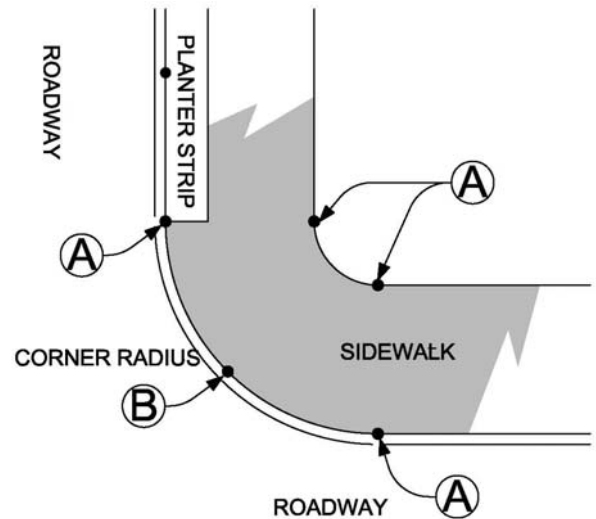


Federal yellow is the color used on City of Tacoma projects to achieve visual contrast. Colors other than federal yellow that meet the light-on-dark/dark-on-light requirements may be used at the approval of the ADA Coordinator.

## Definitions: Corner Radius

**Corner Radius:** A circular area having an extent determined by the length of the radius from a given or specified central point.

- A End of Radius (ER):** the beginning or ending of a radius.
- B Mid-Point of Radius (MP):** The middle of a radius central between two End of Radius points.

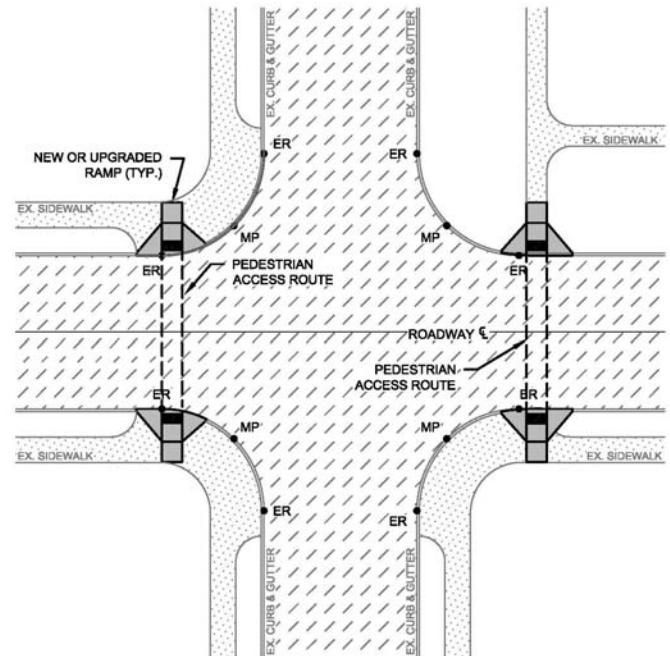


## Definitions: Pedestrian Access Route

**Pedestrian Access Route (PAR):** A continuous and unobstructed path of travel provided for pedestrians with disabilities within or coinciding with a pedestrian circulation path.

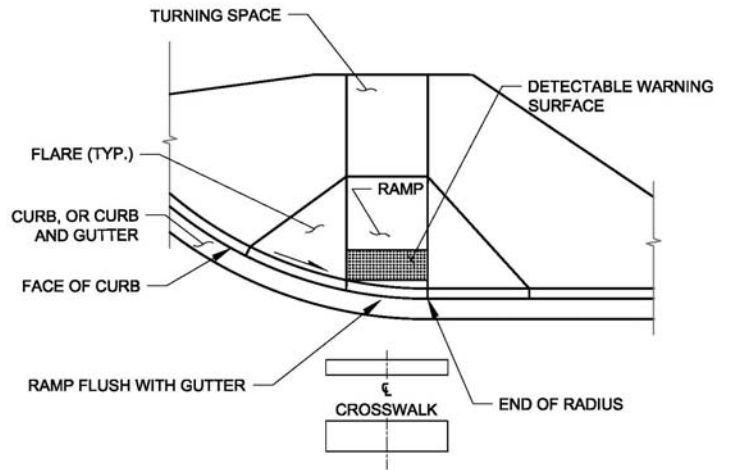
Pedestrian access routes consist of one or more of the following pedestrian facilities: Walkways/sidewalks, curb ramps (excluding flares), landings, and crosswalks.

**Note:** Typical Pedestrian Access Route is between the end or mid-point of the radius; however, when the Pedestrian Access Route does not intersect the corner radius (e.g. large planter strips, mid-block crossings, shared use path) curb ramps are required to assure an accessible pedestrian access route.

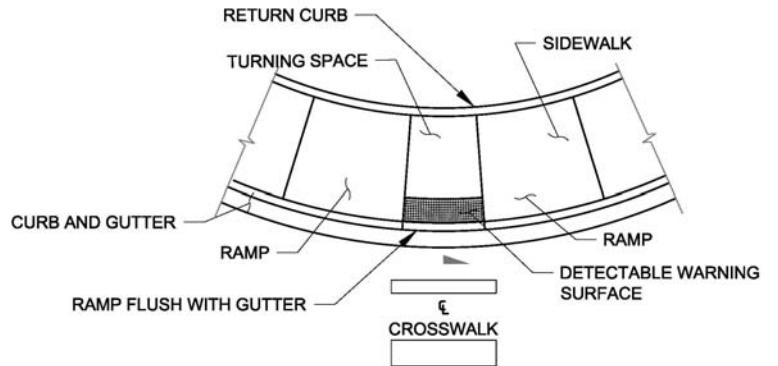


**Examples of Curb Ramps** *The following examples are not intended to be used for design purposes. For information on designing curb ramps, please refer to the City of Tacoma Standard Plans.*

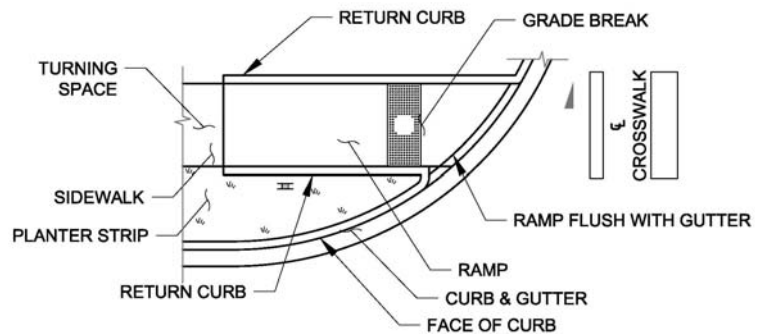
**Perpendicular Curb Ramp**



**Parallel Curb Ramp, Type 'A'**

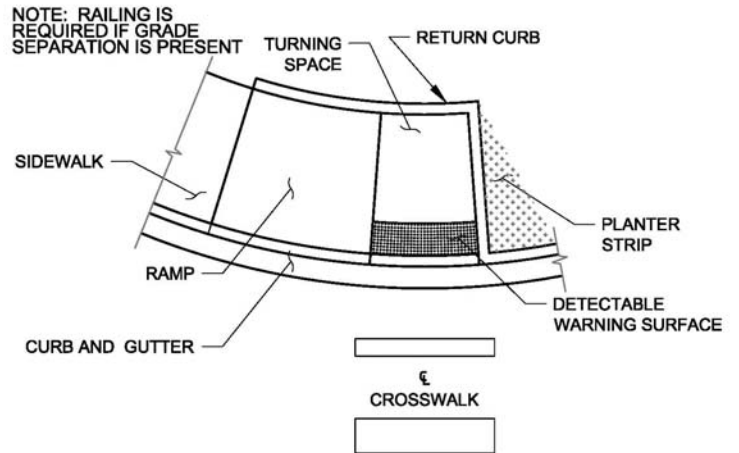


**Single Directional Curb Ramp**

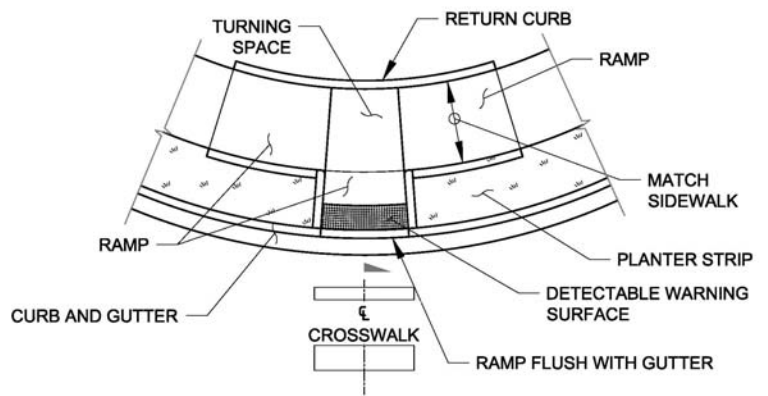


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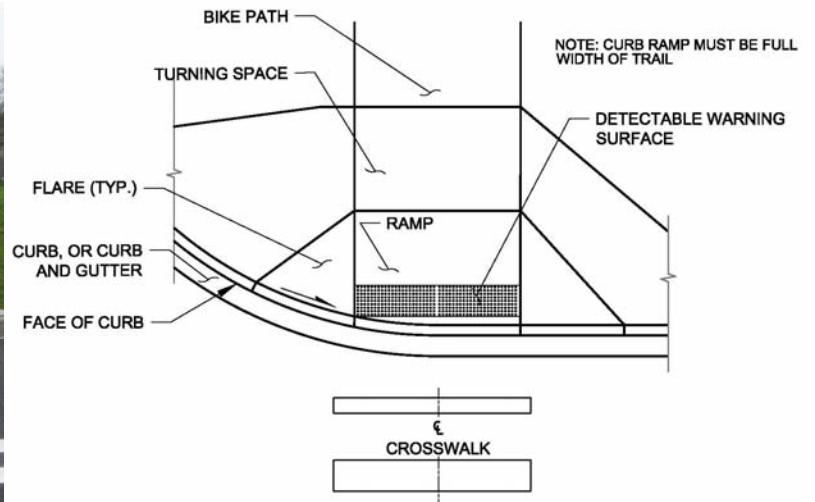
**Parallel Curb Ramp, Type 'B'**



**Combination Curb Ramp**



**Curb Ramp at Trail**



## Section 2: Existing Curb Ramp Evaluation Criteria

When **existing** curb ramps are within the limits of affected work as defined by the Four Guiding Principles in Section 3, an evaluation of those ramps are required to determine if they need to be reconstructed. Following is a list of curb ramp elements that must be evaluated to determine if an **existing** curb ramp needs to be reconstructed: (Note— criteria used to evaluate **existing** curb ramps does not ensure full compliance with current codes. Curb ramps that do not meet current codes will be replaced at a later date).

**Existing** curb ramp barriers—if one or more of these barriers exist, a new curb ramp is required:

- A curb ramp with a longitudinal slope greater than 10%; or
- A curb ramp cross-slope exceeding the gutter slope; or
- A curb ramp with no turning space/landing.; or
- Vertical surface discontinuities greater than 1/2 inch.

**Existing** curb ramp barriers—if more than two (2) barriers exist, a new curb ramp is required:

- A longitudinal slope greater than 8.3%, but less than or equal to 10%.
- Non-compliant turning space/landing (running and/or cross-slope greater than 2%)
- Change in level (not flush) at grade breaks.
- Non-compliant or missing detectable warning
- Ramp or turning space/landing are cracked, broken, or damaged
- Out of alignment with opposing curb ramp (more than 1/2 ramp width from opposing ramp).

## Section 3: The Four Guiding Principles

In the development of the Curb Ramp Installation Matrix, the City of Tacoma has identified Four guiding principles. These Principles are:

### **Principle #1: Alterations vs. Maintenance**

- 1. Title II of the American Disabilities Act (35.151: New Construction and Alterations) requires** that state and local governments ensure that persons with disabilities have access to the pedestrian routes in the public right-of-way. An important part of this requirement is the obligation whenever streets, roadways, or highways are altered to provide curb ramps where street level pedestrian walkways cross curbs. This requirement is intended to ensure the accessibility and usability of the pedestrian walkway for persons with disabilities.
- 2. What is road Maintenance compared to a road Alteration?** An alteration is a change that affects or could affect the usability of a facility or building. Alterations of streets, roads, or highways include activities such as reconstruction, rehabilitation, resurfacing, widening, and projects of similar scale and effect. Maintenance activities on streets, roads, or highways, such as filling potholes, are not alterations. Refer to the following list of examples of alteration and maintenance activities.

**What is the difference between Alteration and Maintenance Activities? Here are some examples:**

Alteration vs. Maintenance	
Alteration	Maintenance
<ul style="list-style-type: none"> <li>• HMA Resurfacing                             <ul style="list-style-type: none"> <li>• Overlay</li> <li>• Mill and Fill</li> <li>• Thin lift overlays</li> </ul> </li> <li>• Reconstruction                             <ul style="list-style-type: none"> <li>• Full depth reclamation</li> <li>• Cold-in-Place Recycling</li> </ul> </li> <li>• Rehabilitation                             <ul style="list-style-type: none"> <li>• Full slab jacking</li> <li>• Slab jacking</li> <li>• widening</li> </ul> </li> <li>• Open Graded Friction Course</li> <li>• Microsurfacing</li> <li>• Cape Seal (chip seal in comb. w/ either slurry seal or microsurface applied on top)</li> <li>• In-Place asphalt recycling</li> </ul>	<ul style="list-style-type: none"> <li>• Crack Sealing</li> <li>• Surfacing sealing w/ liquid asphalt</li> <li>• Chip Seal (by itself, not a cape seal)</li> <li>• Slurry Seal (by itself, not a cape seal)</li> <li>• Fog seal</li> <li>• Scrub sealing</li> <li>• Joint crack seals (routing prior to crack seal)</li> <li>• Dowel bar retrofits</li> <li>• Spot high friction treatments</li> <li>• Diamond Grinding</li> <li>• Pavement patching (either full or partial depth)</li> </ul>

Source: Department of Justice/Department of Transportation Joint Technical Assistance on the Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps when Streets, Roads, or Highways are Altered through Resurfacing. This document as well as a glossary of terms can be found on the City of Tacoma Project Development website.

**Principle #2: Altered Roadway Exceeding 50% of Road Width**

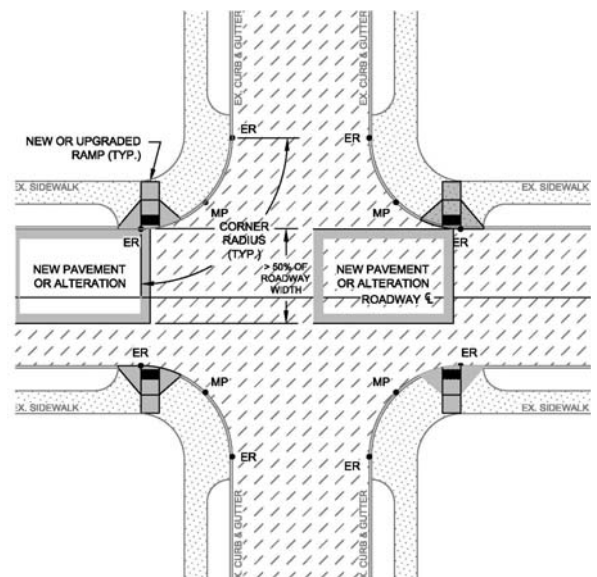
**Alteration impacting more than 50% of the road width** is considered by the City as an alteration and therefore triggers the installation of accessible features.

New ramps are required when:

- Alteration extends up to or within the End and Midpoint of the Corner Radius; and
- Pavement/Overlay is greater than 50% of Roadway Width (regardless of Pavement/Overlay length); and
- Existing curb ramp is non-compliant (See Section 2: Existing Curb Ramp Evaluation Criteria)

Curb ramp construction is required if there is sidewalk or curb present at either end of the pedestrian crossing. Evidence of pedestrian traffic (e.g. goat path) may require a ramp or turning space/landing.

NOTE: Every required curb ramp shall have an existing opposing curb ramp that meets the Existing Curb Ramp Evaluation Criteria in Section 2 or a new curb ramp.





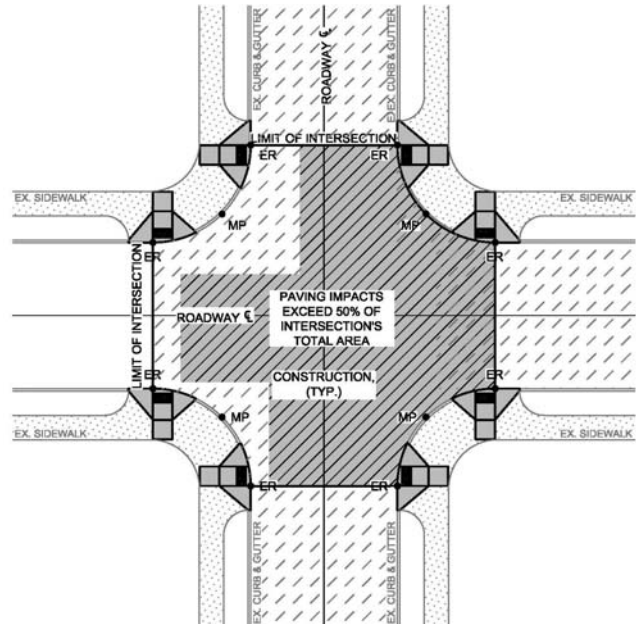
### Principle #3: Altered Intersection Exceeding 50% of Intersection Area

New curb ramps are required on all corners of the intersection when:

- Alteration affects more than 50% of the total area of the intersection; and
- Existing curb ramp is non-compliant (See Section 2: Existing Curb Ramp Evaluation Criteria).

Curb ramp construction is required if there is an existing sidewalk or curb present at either end of the pedestrian crossing. Evidence of pedestrian traffic (e.g. goat path) may require a ramp or turning space/landing.

NOTE: Every required curb ramp shall have an existing opposing curb ramp that meets the Existing Curb Ramp Evaluation Criteria in Section 2 or a new curb ramp.



### Principle #4: End and Midpoint of the Radius for Work At or Behind the Curb

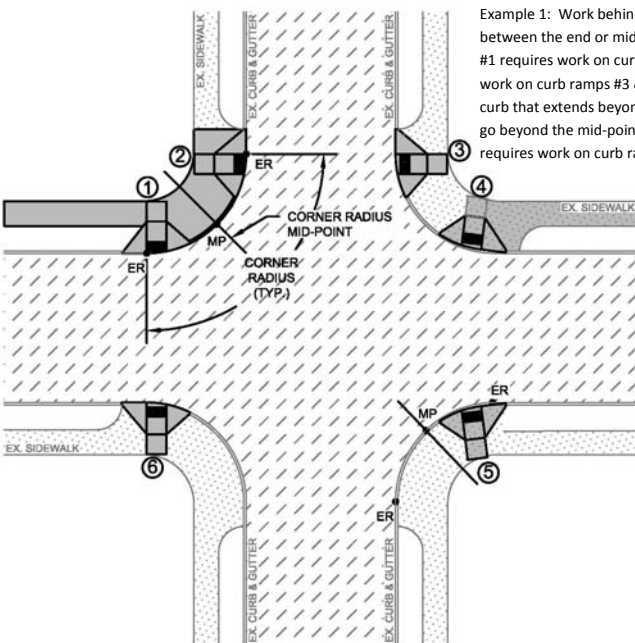
(Typically used for sidewalk and curb ramp replacement projects)

New curb ramps are required when:

- Curb/Sidewalk improvements extends up to or *between* the end *and* mid-point of the corner radius adjacent to the roadway (see Example 1: Sidewalk Construction)
- Existing curb ramp is non-compliant (See Section 2: Existing Curb Ramp Evaluation Criteria).

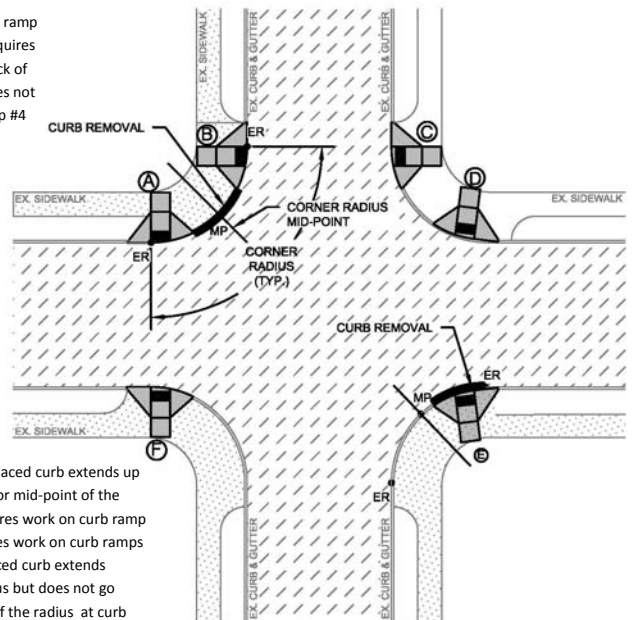
Curb ramp construction is required if there is sidewalk or curb present at either end of the pedestrian crossing. Evidence of pedestrian traffic (e.g. goat path) may require a ramp or turning space/landing.

NOTE: Every required curb ramp shall have an existing opposing curb ramp that meets the Existing Curb Ramp Evaluation Criteria in Section 2 or a new curb ramp.



Example 1: Sidewalk Construction

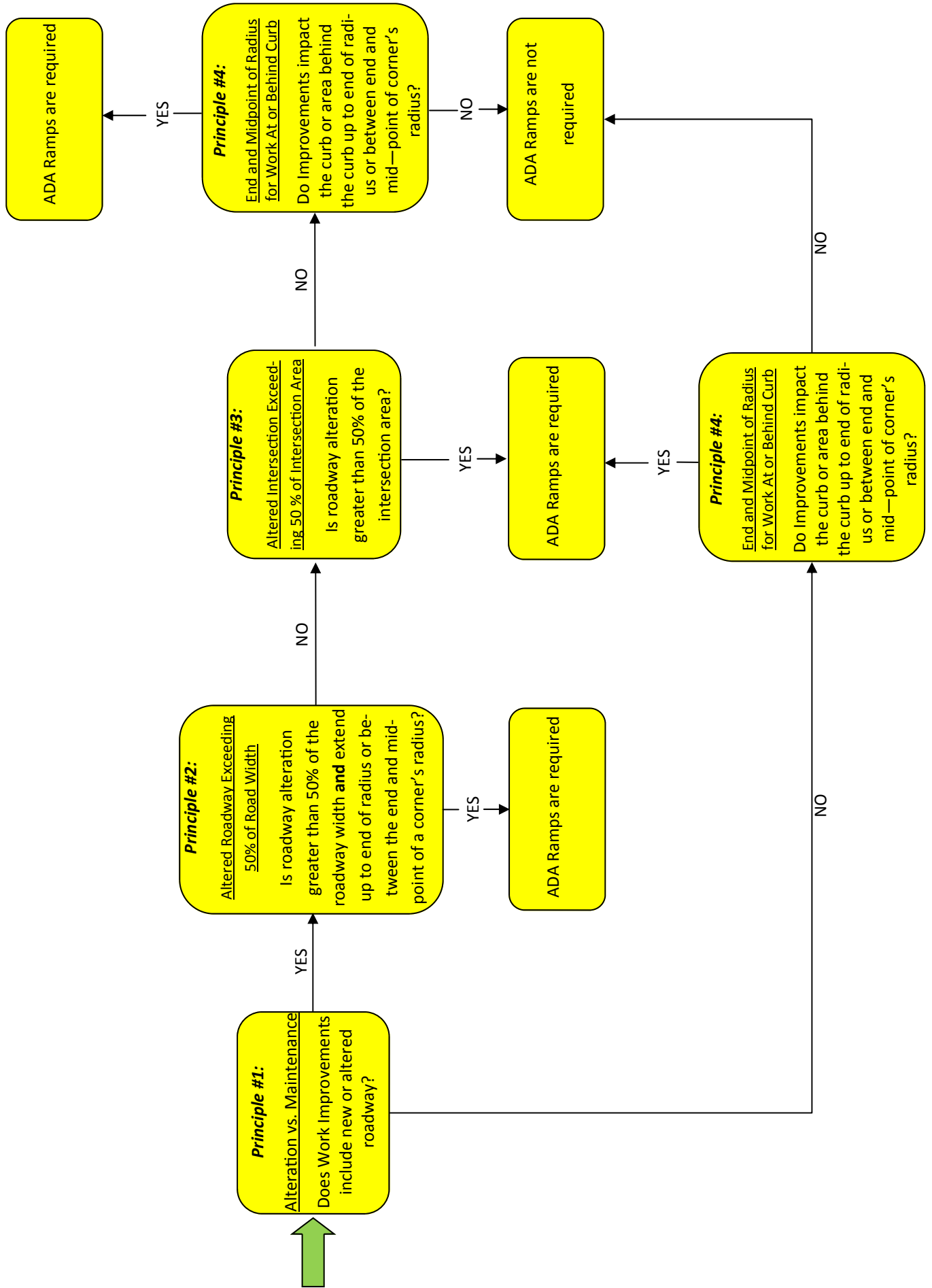
Example 1: Work behind the curb extends up to or between the end or mid-point of the radius at curb ramp #1 requires work on curb ramp #2 which in turn requires work on curb ramps #3 & #6. Work behind the back of curb that extends beyond the end of radius but does not go beyond the mid-point of the radius at curb ramp #4 requires work on curb ramp #5 only.



Example 2: Curb Construction

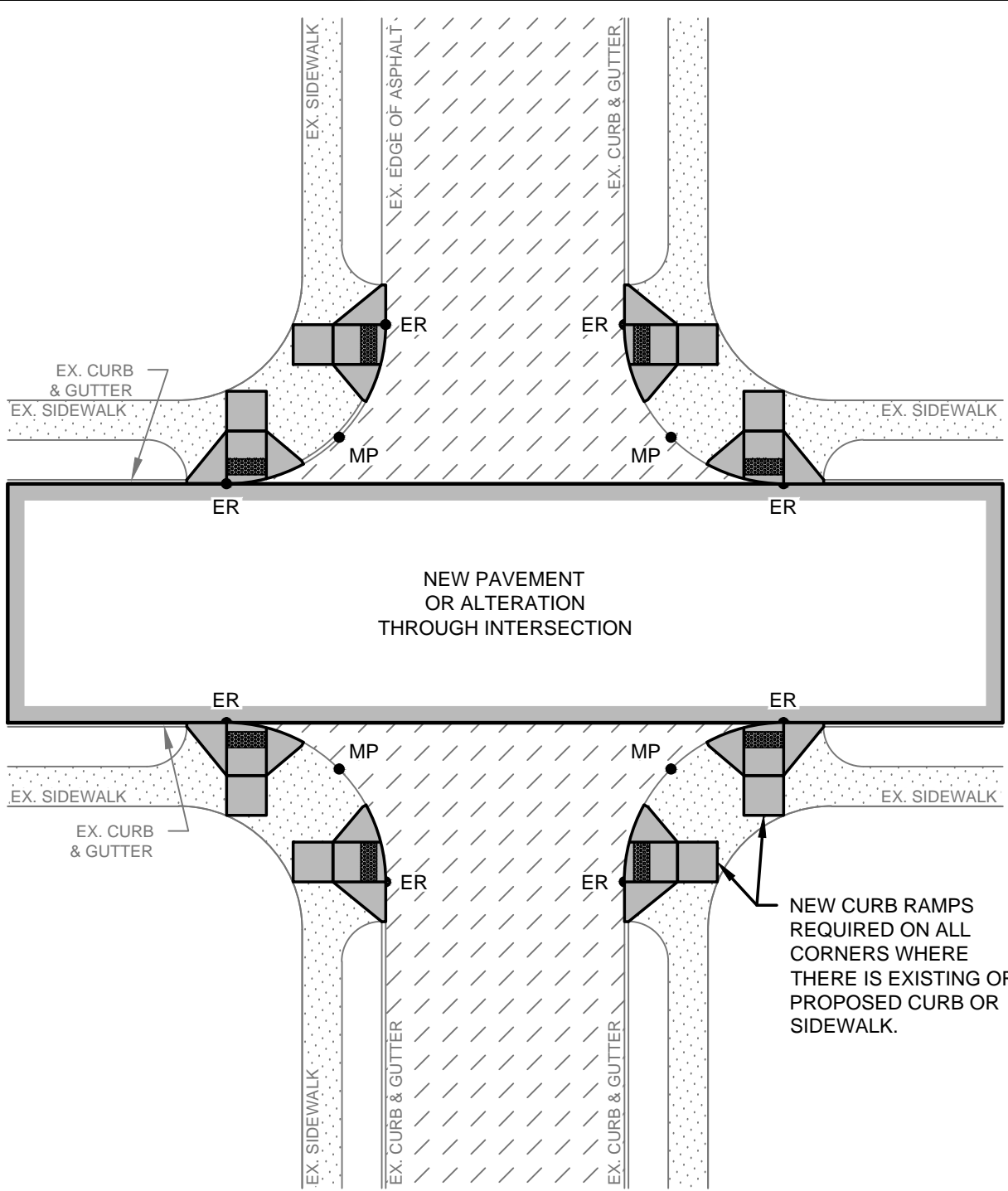
Example 2: New or replaced curb extends up to or between the end or mid-point of the radius at ramp #A requires work on curb ramp #B which in turn requires work on curb ramps #C & #F. New or replaced curb extends beyond the end of radius but does not go beyond the mid-point of the radius at curb ramp #E requires work on curb ramp #D only.

# Section 4: ADA Curb Ramp Matrix Flow Chart



## Appendix A

### Curb Ramp Matrix Installation Drawings



**NOTES:**

NEW CURB RAMPS REQUIRED ON ALL CORNERS OF THE INTERSECTION WHEN:

- PAVEMENT/OVERLAY EXTENDS UP TO OR WITHIN THE CORNER'S RADIUS; AND
- PAVEMENT/OVERLAY IS GREATER THAN 50% OF ROADWAY WIDTH (REGARDLESS OF PAVEMENT/OVERLAY LENGTH).

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

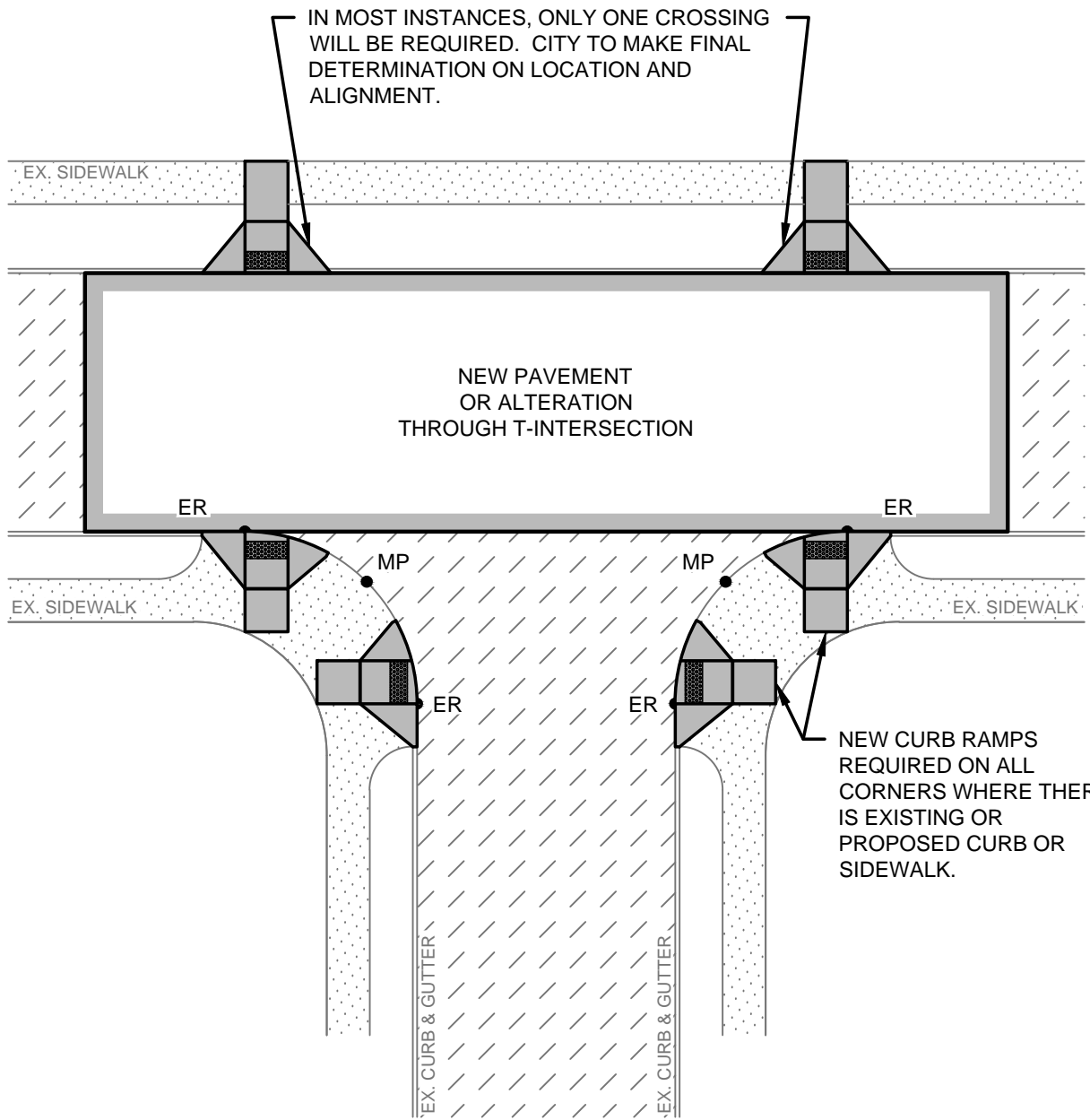
FOR DEFINITION OF ALTERATION, REFER TO SECTION 3 - GUIDING PRINCIPLES OF THE CURB RAMP INSTALLATION MATRIX.

WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
FIGURE 1  
STREET PAVING IMPROVEMENTS  
FULL INTERSECTION**



**NOTES:**

NEW CURB RAMPS REQUIRED ON ALL CORNERS OF THE INTERSECTION WHEN:

- PAVEMENT/OVERLAY EXTENDS UP TO OR WITHIN THE CORNER'S RADIUS; AND
- PAVEMENT/OVERLAY IS GREATER THAN 50% OF ROADWAY WIDTH (REGARDLESS OF PAVEMENT/OVERLAY LENGTH).

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

FOR DEFINITION OF ALTERATION, REFER TO SECTION 3 - GUIDING PRINCIPLES OF THE CURB RAMP INSTALLATION MATRIX.

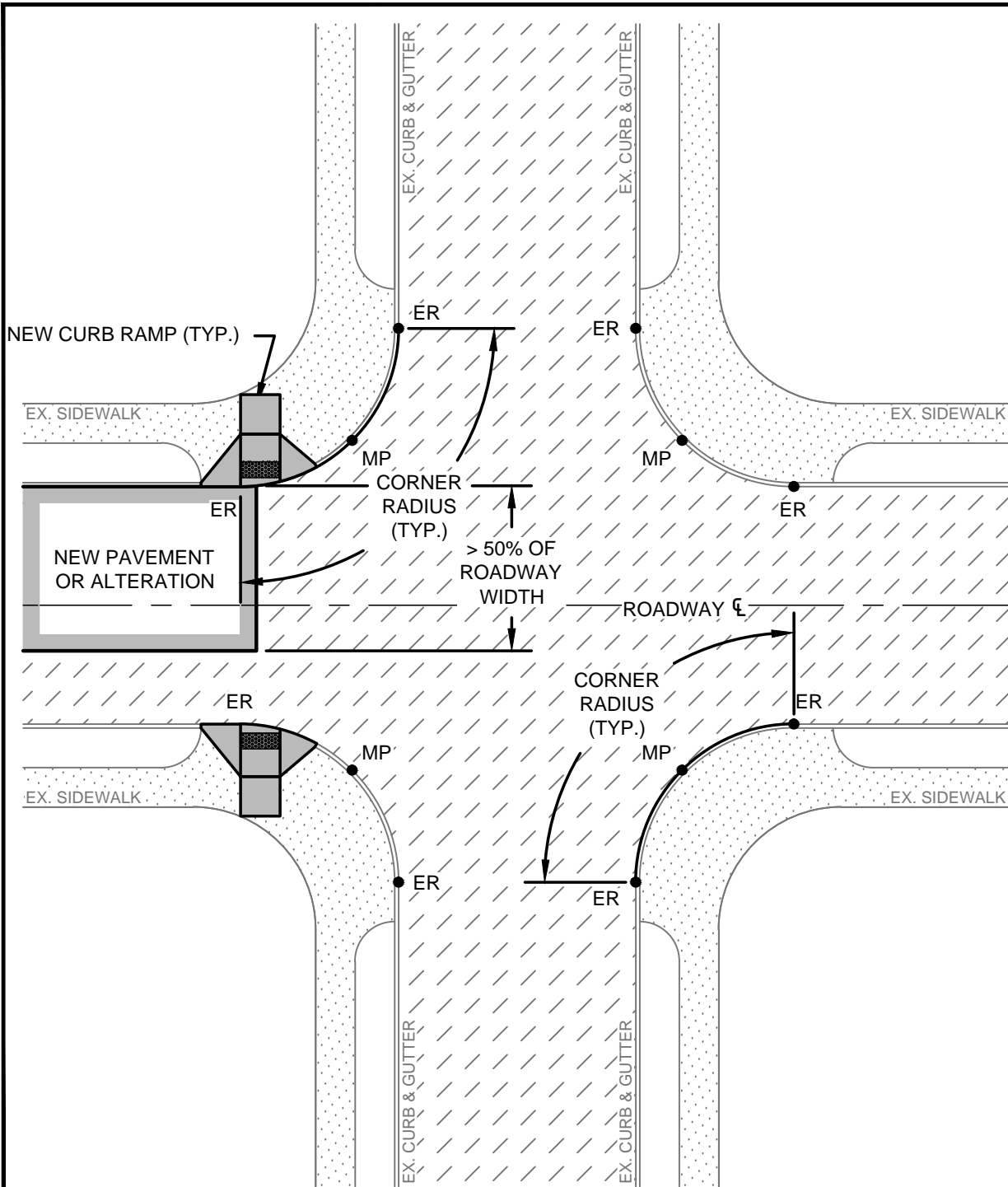
WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
FIGURE 2  
STREET PAVING IMPROVEMENTS  
T-INTERSECTION**

ISSUED: September 9, 2015



**NOTES:**

NEW CURB RAMPS REQUIRED WHEN:

- PAVEMENT/OVERLAY EXTENDS UP TO OR WITHIN THE CORNER'S RADIUS; AND
- PAVEMENT/OVERLAY IS GREATER THAN 50% OF ROADWAY WIDTH (REGARDLESS OF PAVEMENT/OVERLAY LENGTH).

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

FOR DEFINITION OF ALTERATION, REFER TO SECTION 3 - GUIDING PRINCIPLES OF THE CURB RAMP INSTALLATION MATRIX.

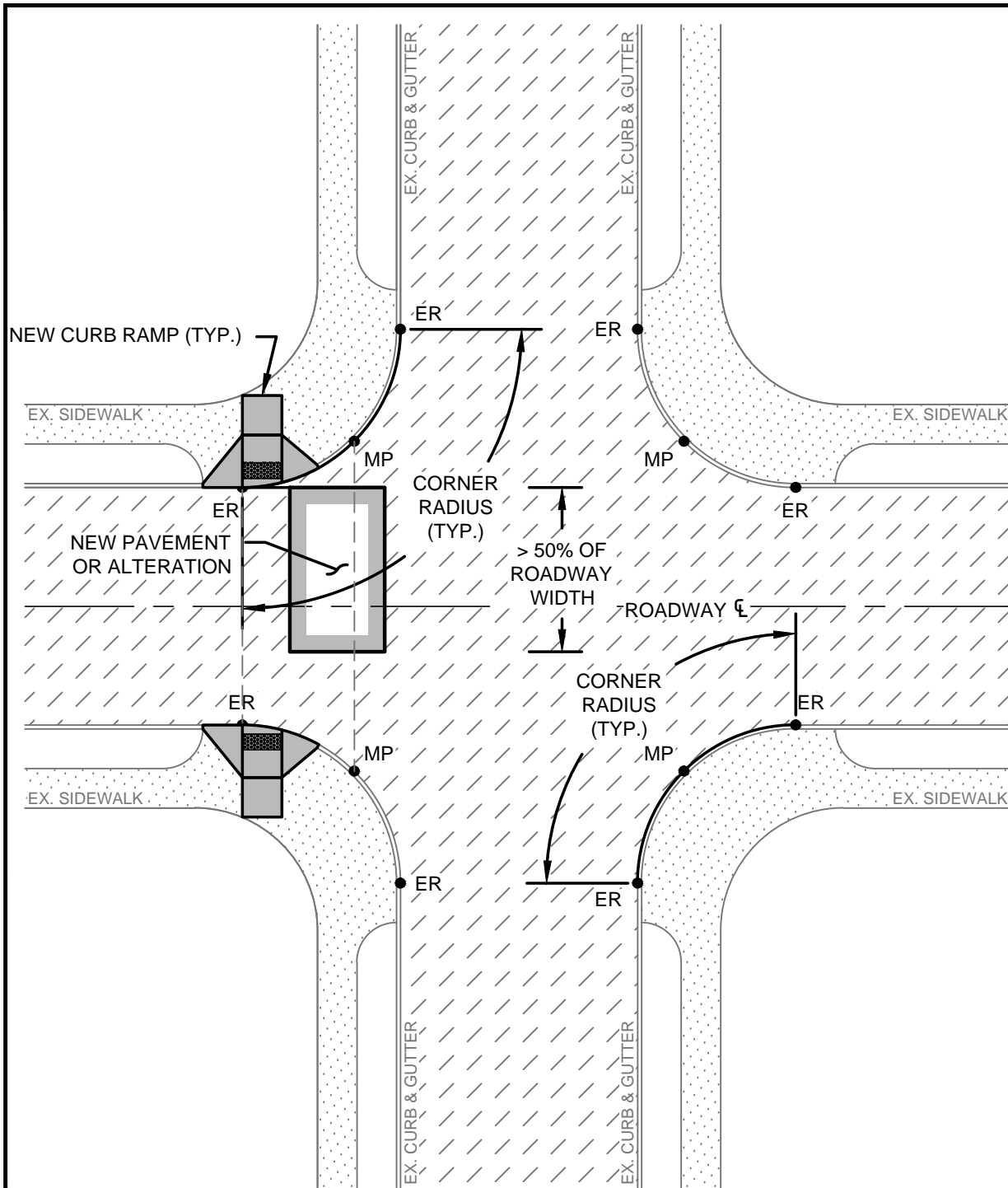
WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
FIGURE 3  
STREET PAVING IMPROVEMENTS  
EXTEND UP TO OR WITHIN CORNER'S RADIUS**

ISSUED: September 9, 2015



**NOTES:**

NEW CURB RAMPS REQUIRED WHEN:

- PAVEMENT/OVERLAY EXTENDS UP TO OR WITHIN THE CORNER'S RADIUS; AND
- PAVEMENT/OVERLAY IS GREATER THAN 50% OF ROADWAY WIDTH (REGARDLESS OF PAVEMENT/OVERLAY LENGTH).

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

FOR DEFINITION OF ALTERATION, REFER TO SECTION 3 - GUIDING PRINCIPLES OF THE CURB RAMP INSTALLATION MATRIX.

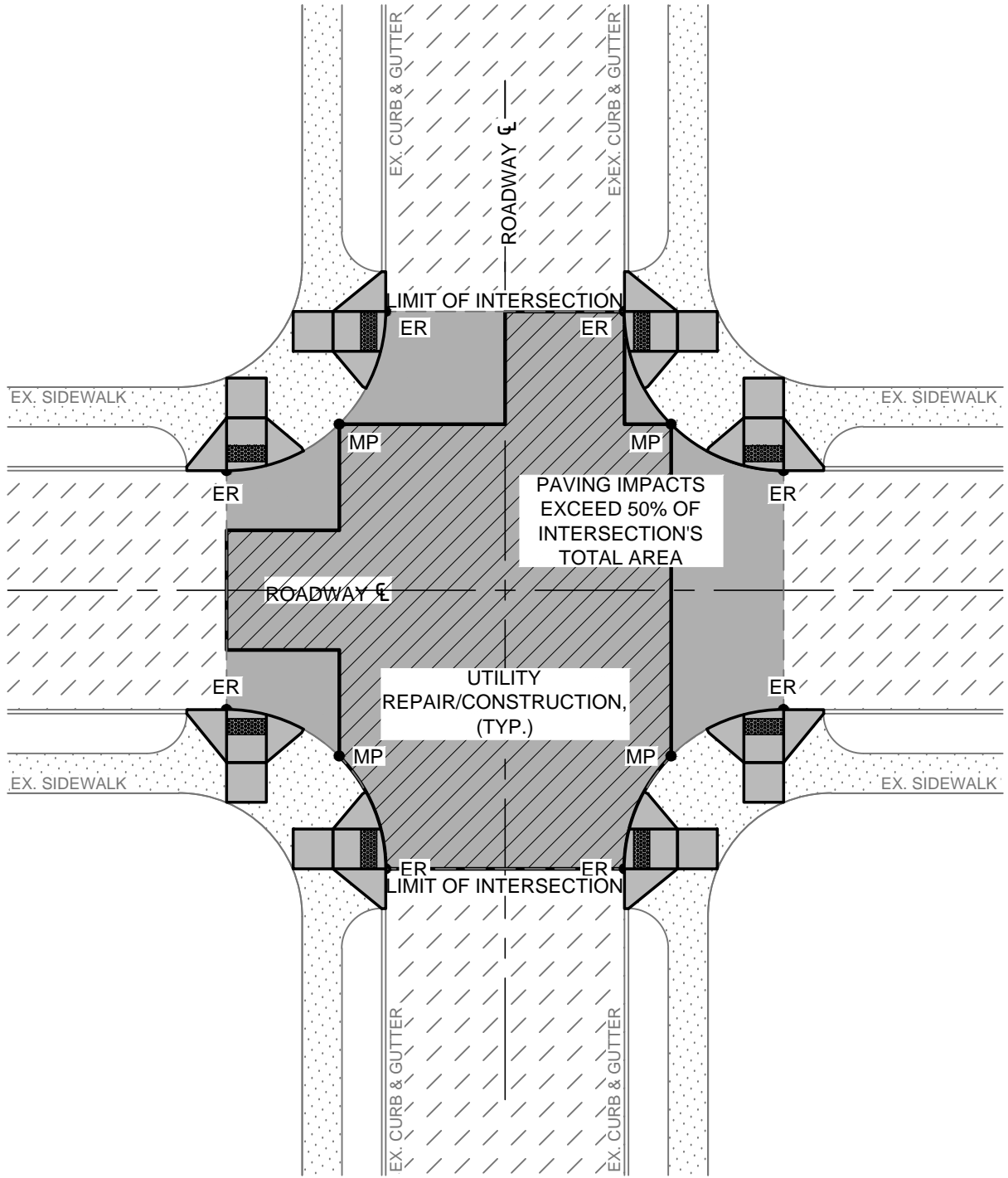
WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX**  
**FIGURE 4**  
**STREET PAVING IMPROVEMENTS**  
**UP TO OR WITHIN END AND**  
**MID-POINT OF RADIUS**

ISSUED: September 9, 2015



**NOTES:**

NEW CURB RAMPS REQUIRED ON ALL CORNERS WHEN STREET PAVEMENT IMPROVEMENTS REQUIRES MORE THAN 50% OF THE INTERSECTION'S TOTAL AREA.

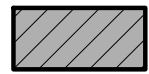
SEE FIGURE 3 & 4 FOR CURB RAMP REQUIREMENTS WHEN PAVING IS LESS THAN 50% OF THE INTERSECTION'S AREA.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

FOR DEFINITION OF ALTERATION, REFER TO THE GUIDING PRINCIPLES SECTION OF THE CURB RAMP INSTALLATION MATRIX.

WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MITCH INTERSECTION AREA

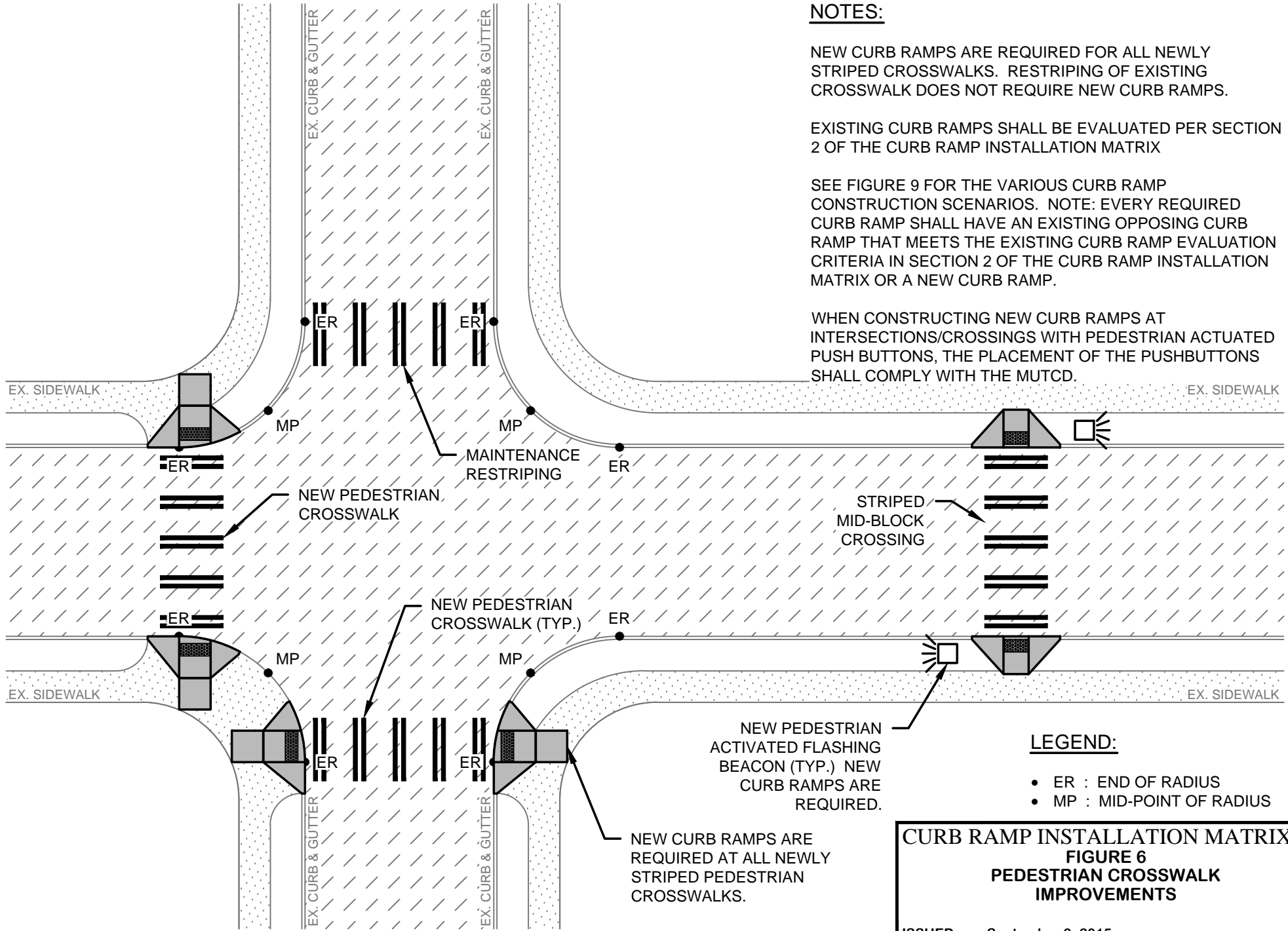
 AREA WHERE REPAIR/CONSTRUCTION/STREET RESTORATION IS PLANNED.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX**  
**FIGURE 5**  
**STREET PAVEMENT IMPROVEMENTS**  
**EXCEEDING 50% OF**  
**INTERSECTION AREA**  
 ISSUED: September 9, 2015





**NOTES:**

NEW CURB RAMPS ARE REQUIRED FOR ALL NEWLY STRIPED CROSSWALKS. RESTRIPING OF EXISTING CROSSWALK DOES NOT REQUIRE NEW CURB RAMPS.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

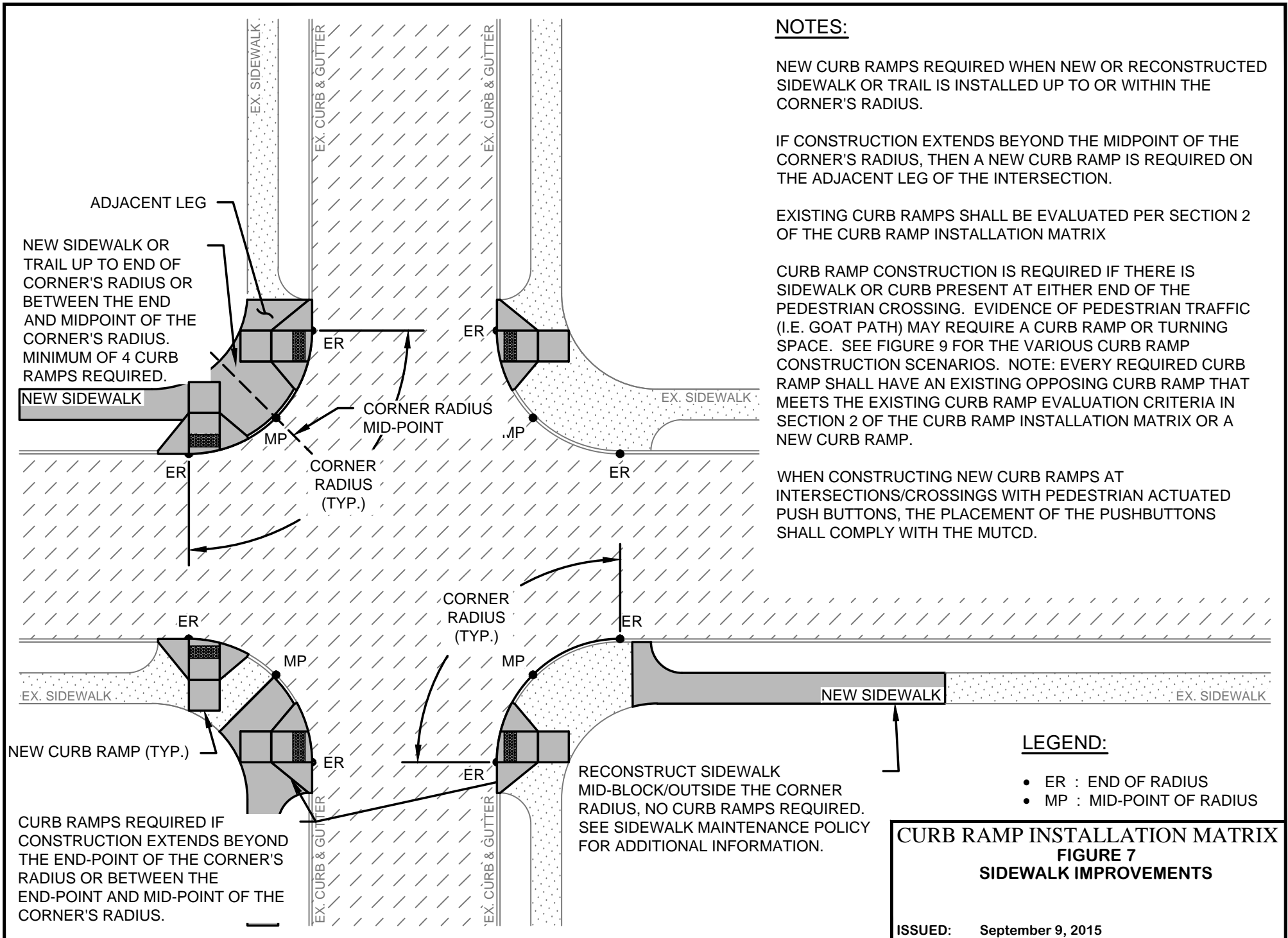
SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX**  
**FIGURE 6**  
**PEDESTRIAN CROSSWALK IMPROVEMENTS**



NEW SIDEWALK OR TRAIL UP TO END OF CORNER'S RADIUS OR BETWEEN THE END AND MIDPOINT OF THE CORNER'S RADIUS. MINIMUM OF 4 CURB RAMPS REQUIRED.

NEW SIDEWALK

NEW CURB RAMP (TYP.)

CURB RAMPS REQUIRED IF CONSTRUCTION EXTENDS BEYOND THE END-POINT OF THE CORNER'S RADIUS OR BETWEEN THE END-POINT AND MID-POINT OF THE CORNER'S RADIUS.

RECONSTRUCT SIDEWALK MID-BLOCK/OUTSIDE THE CORNER RADIUS, NO CURB RAMPS REQUIRED. SEE SIDEWALK MAINTENANCE POLICY FOR ADDITIONAL INFORMATION.

**NOTES:**

NEW CURB RAMPS REQUIRED WHEN NEW OR RECONSTRUCTED SIDEWALK OR TRAIL IS INSTALLED UP TO OR WITHIN THE CORNER'S RADIUS.

IF CONSTRUCTION EXTENDS BEYOND THE MIDPOINT OF THE CORNER'S RADIUS, THEN A NEW CURB RAMP IS REQUIRED ON THE ADJACENT LEG OF THE INTERSECTION.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

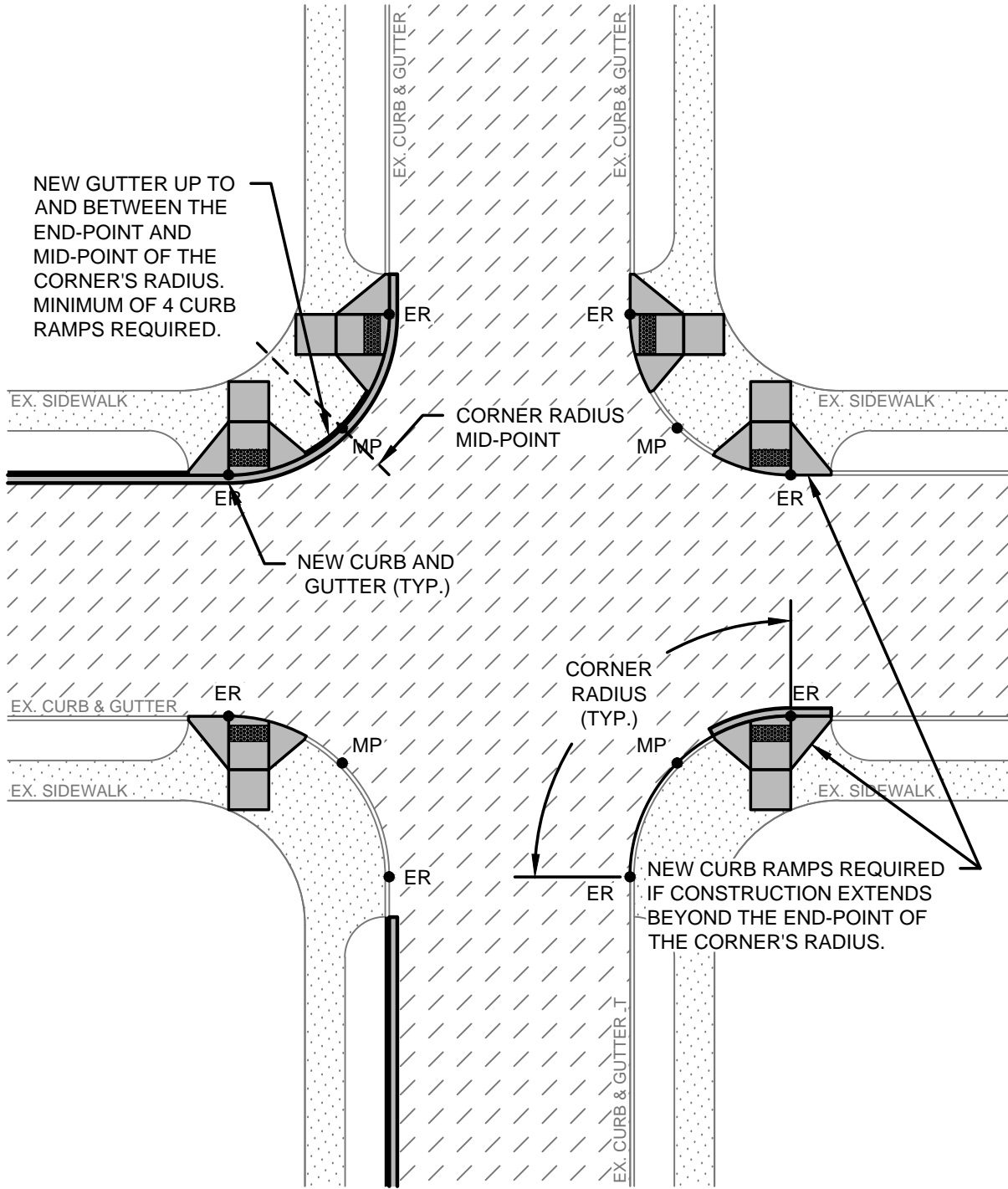
WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
FIGURE 7  
SIDEWALK IMPROVEMENTS**

ISSUED: September 9, 2015



**NOTES:**

NEW CURB RAMPS REQUIRED WHEN NEW/UPGRADED CURB AND/OR GUTTER EXTENDS UP TO OR WITHIN THE CORNER'S RADIUS.

CURB RAMP UPGRADE IS REQUIRED ON THE LEG OF THE INTERSECTION THE CONSTRUCTION APPROACHES, INCLUDING ON THE ADJACENT LEG IF CONSTRUCTION EXTENDS BEYOND THE MIDPOINT OF THE CORNER'S RADIUS.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

IF CURB RAMPS ARE LOCATED OUTSIDE THE CORNER'S RADIUS, BUT IMPACTED BY CURB AND/OR GUTTER IMPROVEMENTS, CURB RAMPS SHALL BE REPLACED AS DESCRIBED ABOVE OR AS REQUIRED BY THE CITY.

CURB RAMP CONSTRUCTION IS REQUIRED IF THERE IS SIDEWALK OR CURB PRESENT AT EITHER END OF THE PEDESTRIAN CROSSING. EVIDENCE OF PEDESTRIAN TRAFFIC (I.E. GOAT PATH) MAY REQUIRE A CURB RAMP OR TURNING SPACE. SEE FIGURE 9 FOR THE VARIOUS CURB RAMP CONSTRUCTION SCENARIOS. NOTE: EVERY REQUIRED CURB RAMP SHALL HAVE AN EXISTING OPPOSING CURB RAMP THAT MEETS THE EXISTING CURB RAMP EVALUATION CRITERIA IN SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX OR A NEW CURB RAMP.

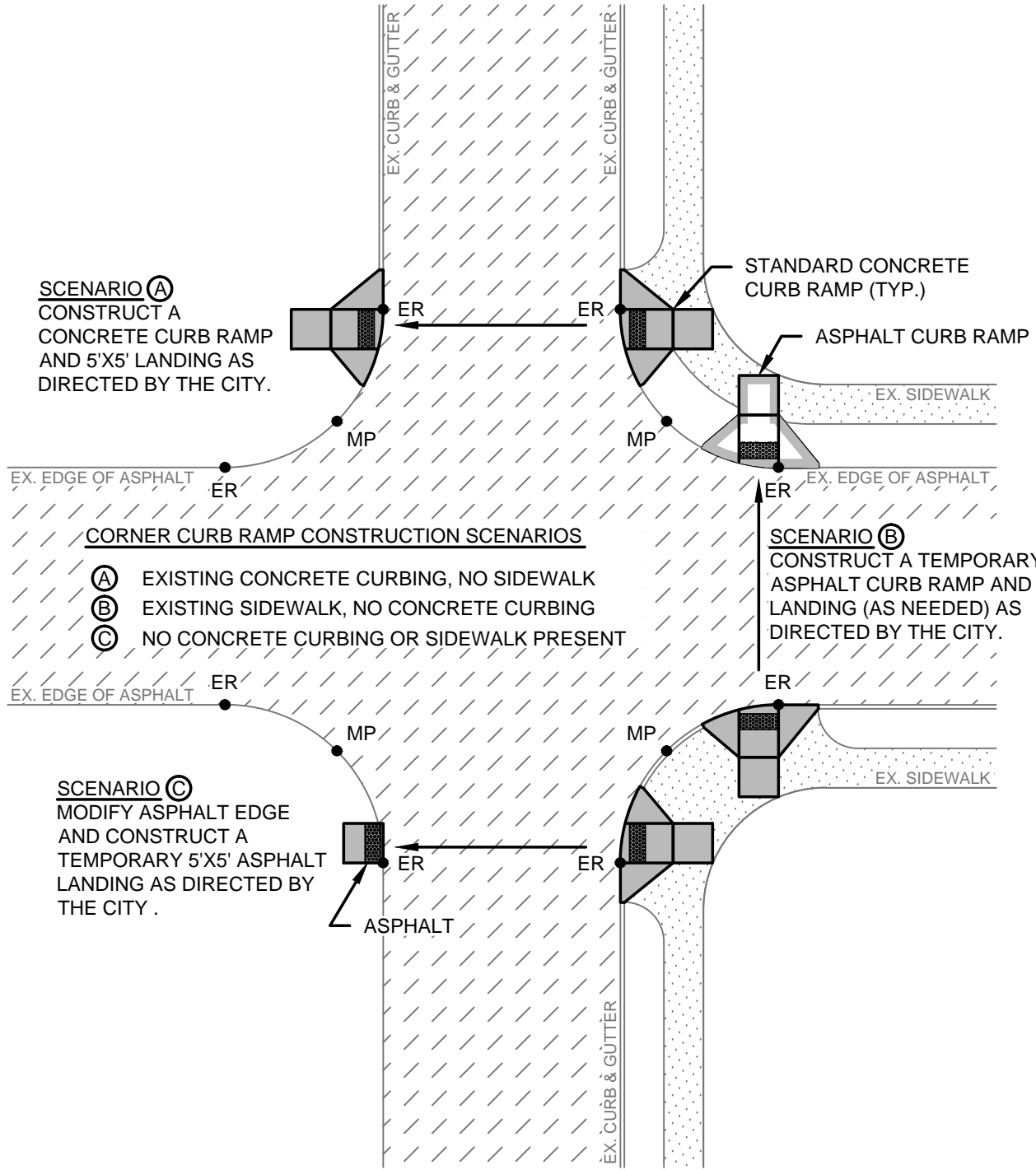
WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
FIGURE 8  
CURB AND GUTTER IMPROVEMENTS**

ISSUED: September 9, 2015



**SCENARIO A**  
 CONSTRUCT A  
 CONCRETE CURB RAMP  
 AND 5'X5' LANDING AS  
 DIRECTED BY THE CITY.

**CORNER CURB RAMP CONSTRUCTION SCENARIOS**

- A EXISTING CONCRETE CURBING, NO SIDEWALK
- B EXISTING SIDEWALK, NO CONCRETE CURBING
- C NO CONCRETE CURBING OR SIDEWALK PRESENT

**SCENARIO C**  
 MODIFY ASPHALT EDGE  
 AND CONSTRUCT A  
 TEMPORARY 5'X5' ASPHALT  
 LANDING AS DIRECTED BY  
 THE CITY .

**SCENARIO B**  
 CONSTRUCT A TEMPORARY  
 ASPHALT CURB RAMP AND  
 LANDING (AS NEEDED) AS  
 DIRECTED BY THE CITY.

**NOTES:**

**CURB RAMP CONSTRUCTION SCENARIOS:**

- A IF ONLY CONCRETE CURBING (NO SIDEWALK) EXISTS AT A CROSSING'S RECEIVING END, A TEMPORARY CONCRETE CURB RAMP/WINGS/LANDING (MINIMUM OF 5'X5') SHALL BE CONSTRUCTED AS DIRECTED BY THE CITY.
- B IF ONLY SIDEWALK (NO CONCRETE CURB) EXISTS AT A CROSSING'S RECEIVING END, A TEMPORARY ASPHALT CURB RAMP/LANDING (MINIMUM OF 5'X5') SHALL BE CONSTRUCTED AS DIRECTED BY THE CITY.
- C IF THERE IS NO SIDEWALK AND CURB AT A CROSSING'S RECEIVING END, THE EDGE OF PAVEMENT SHALL BE MODIFIED AND AN ASPHALT LANDING (MINIMUM OF 5'X5') SHALL BE CONSTRUCTED AS DIRECTED BY THE CITY.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

CURB RAMPS AND TURNING SPACES/LANDINGS MAY BE CONSTRUCTED OUT OF ASPHALT (2" OF 3/8" COMMERCIAL HMA OVER 3" CSTC) AS APPLIES PER THE GUIDELINES BELOW.

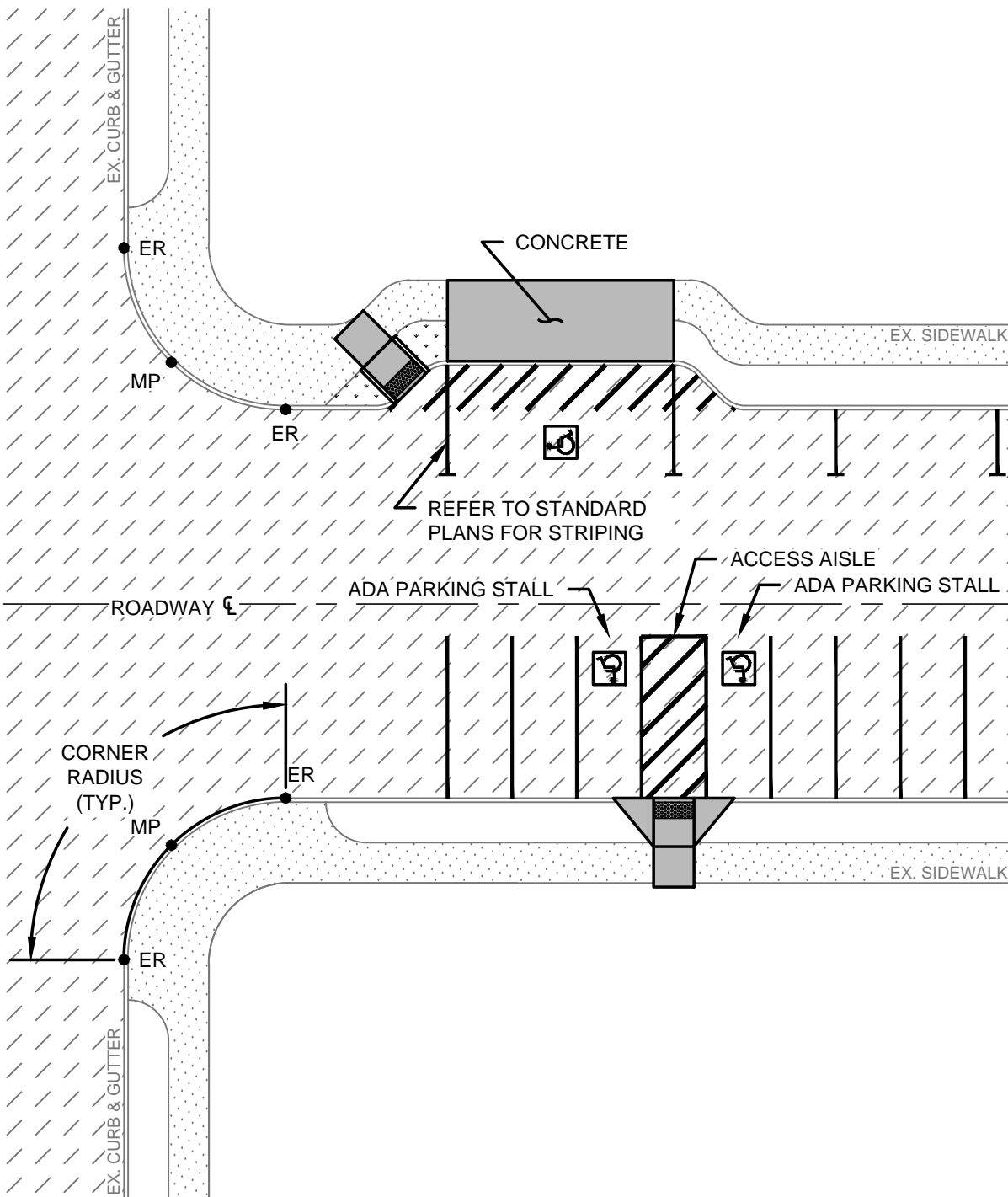
TACTILE SURFACES ARE REQUIRED ON ALL PERMANENT CURB RAMPS AND LANDINGS. VANGUARD, OR EQUIVALENT, MAY BE APPLIED TO ASPHALT PAVEMENT.

WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

**CURB RAMP INSTALLATION MATRIX  
 FIGURE 9  
 CURB RAMP CONSTRUCTION SCENARIOS**



**NOTES:**

NEW CURB RAMPS ARE REQUIRED WHEN STRIPING NEW OR ALTERING EXISTING STRIPING OF PARKING STALLS.

CURB RAMPS ARE REQUIRED FOR EACH ACCESS AISLE. REFER TO PROWAG AND CONTACT ADA COORDINATOR.

WHEN CONSTRUCTING NEW CURB RAMPS AT INTERSECTIONS/CROSSINGS WITH PEDESTRIAN ACTUATED PUSH BUTTONS, THE PLACEMENT OF THE PUSHBUTTONS SHALL COMPLY WITH THE MUTCD.

EXISTING CURB RAMPS SHALL BE EVALUATED PER SECTION 2 OF THE CURB RAMP INSTALLATION MATRIX

**LEGEND:**

- ER : END OF RADIUS
- MP : MID-POINT OF RADIUS

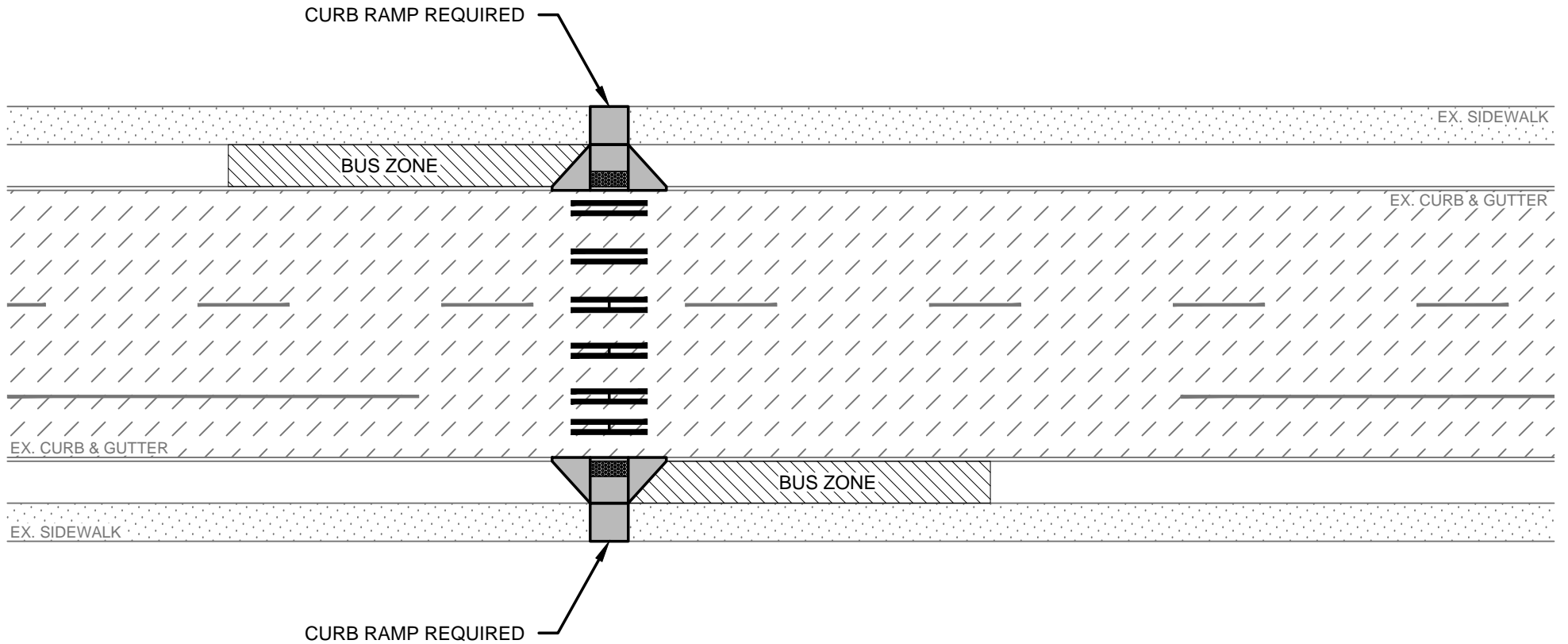
**CURB RAMP INSTALLATION MATRIX  
FIGURE 10  
ON-STREET ADA PARKING**

ISSUED: September 9, 2015

**NOTES:**

CURB RAMPS ARE REQUIRED WHEN ALTERING OR CONSTRUCTING NEW BUS STOPS

COORDINATE WITH TRAFFIC DIVISION FOR ADDITIONAL REQUIREMENTS REGARDING STREET CROSSING



**CURB RAMP INSTALLATION MATRIX**  
**FIGURE 11**  
**ALTERED OR NEW BUS STOP**  
**WITHOUT PARKING**  
ISSUED: September 9, 2015

## Appendix B

### Variance Request Form



**Public Works Department  
Curb Ramp Matrix  
Variance Request Form**

**Application for Variance to the City of Tacoma Curb Ramp Installation Matrix**

**Purpose:** The COT Curb Ramp Installation Matrix was developed in an effort to ensure a consistent method for assessing and providing curb ramps throughout the City. The City of Tacoma is committed to equal access and removing barriers that may prevent people for navigating our rights-of-way. Due to the varying nature of projects and their impact on the right-of-way, a set of principles was developed that could be equally applied. However, there may be circumstances that may require an exception to the Curb Ramp Matrix. For example, an intersection with curb and gutter is being overlaid and there is no existing or proposed sidewalk for a few blocks in any direction. For situations such as this, a process has been established to review construction projects on a case by case basis.

**Process:** In order for a project to be considered for an exception to the Curb Ramp Installation Matrix, the applicant must conduct a thorough analysis of the possible impact to pedestrians. Please submit a Curb Ramp Matrix variance request form to the Street Operations Division Manager and ADA Coordinator. They will meet with applicant to review the application. **If approved, a note will be added to the design plans that will include the reason for the request and the considerations that led to an approval.**

**Submit a Request:**

- 1) Scope of work
- 2) Specific proposal for work. What are you requesting?
- 3) The site specific factors or reasons supporting the request:
  - a. Are there indications of pedestrian traffic such as goat paths?
  - b. Proximity to nearest bus stops
  - c. Proximity to businesses, social service agencies, government facilities
  - d. Proximity to nearest sidewalks (a map/plan shall be included to support request)

**Please submit your request by sending an email or hard copy to:**

Rae Bailey, Street Operations Division Manager at [rbailey@cityoftacoma.org](mailto:rbailey@cityoftacoma.org), phone 253-591-5488

Gail Himes, ADA Coordinator, at [ghimes@cityoftacoma.org](mailto:ghimes@cityoftacoma.org) phone 253-591-5785





**Public Works Department  
Curb Ramp Matrix  
Variance Request Form**

The undersigned requests a variance from the requirements set forth in the Curb Ramp Matrix

Submit to: City of Tacoma  
Attn: Street Operations Division Manager  
Public Works Department  
Street Operations Division  
2324 South C Street  
Tacoma, WA 98402

Permit Number: \_\_\_\_\_

Location or Address of Variance Request: \_\_\_\_\_

Variance Requested for Policy Section(s): \_\_\_\_\_

Name of Permittee: \_\_\_\_\_ Phone: \_\_\_\_\_

Address of Permittee: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Signature of Permittee: \_\_\_\_\_ Date: \_\_\_\_\_

Please state below the reason for the request of variance. Include additional pages and supporting documentation, if necessary.

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Approved <input type="checkbox"/> Denied <input type="checkbox"/> _____ ADA Coordinator/Street Operations Division Manager      Date
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